

required per pound of gain was less than is normally required. This may be a reflection of the younger age lambs used in this experiment as compared to Southwestern feeder lambs. The lambs were fed in the same barn that is used for winter feeding trials.

The average response of the two rations was essentially the same on rate of gain. The lambs fed the standard ration (45 percent ground milo, 5 percent molasses, and 50 percent ground alfalfa hay) required less feed per pound of gain.

Pelleting the ration increased gains slightly with the standard ration. A slight decrease in gain was noted on the higher energy ration. Less feed per pound of gain was required with the mixed ration than the pelleted ration.

Shearing the lambs increased gains in each lot. The overall response from shearing was a 30 percent increase in rate of gain.

Although the summer of 1961 was not extremely hot, this study would indicate that lambs can be successfully fed in Oklahoma during the summer months. The lambs returned a profit of approximately \$2 to \$3 per head.

Observations on the Early Weaning of Creep Fed Lambs

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There are many times when it is desirable to wean lambs before the usual four or five months of age. A lamb's rumen is fully developed at 8 to 10 weeks of age and he can efficiently utilize pasture and other feed at that time. If the ewe is not giving much milk, it is a waste of good feed to allow her to eat twice as much good pasture as her lamb and give the lamb little milk. This is especially important if there is a shortage of pasture. Lambs get internal parasites by grazing on the same pastures with adult sheep during warm, wet weather. Consequently, spring born lambs can be kept relatively parasite free by weaning them before the warm, wet weather starts.

During the past four years lambs have been weaned at the Ft. Reno Livestock Research Station at varying weights and ages to measure the influence of such weaning on their subsequent gain and market grade.

Materials and Methods

Lambs used in these studies were part of those produced in the experimental flock at Ft. Reno. The dams of the lambs were Western* or Dorset X Western cross-bred ewes. The sires were purebred Dorset, Hampshire, or Suffolk rams.

Born between October 15 and November 25 each year, the lambs were moved with their dams to wheat pasture when they were about 10 days old. A mixture of one part chopped, leafy alfalfa hay and two parts cracked kafir grain was creep-fed. During the last two years, five per cent molasses was added to the mixture.

The lambs were weighed biweekly starting when they were about a month old. When they reached 90 to 95 lbs. they were sent to market. The conditions of weaning were changed each year and will be discussed with the results in each trial.

The dams of weaned lambs were moved to Bermuda grass or poor native pasture and fed about 2 lbs. of poor quality alfalfa hay for the remainder of the winter.

Results of Trial I (1958-59)

The 121 lambs used in this trial were out of yearling and two-year-old ewes. Those weaned were weaned at the biweekly weigh periods when they weighed 50 or more lbs. The lambs ranged from 47 to 109 days old when weaned. The ewes were removed and the lambs stayed in the same pasture and night lot in the case of single lambs. One lamb of each set of twins was weaned by moving him into an adjoining pasture and night lot with other ewes and lambs.

Results of this trial appear in Table 1. It will be noted that for the entire post-weaning period the non-weaned lambs gained faster (about .03 lbs. per day) than the weaned lambs. Most of the reduced rate of gain occurred during the first two weeks after weaning for the single lambs. Twin lambs that were about 12 days older than the single lambs when weaned were not adversely affected during the first two weeks by weaning. There were small numbers of twin lambs and, consequently, not too much confidence can be placed in the results.

Results of Trial II (1959-60)

The 104 lambs used in this trial were all single lambs out of yearling, two- and three-year-old ewes. The method of weaning was the same as in Trial I except that lambs were weaned on the first biweekly weigh day on which they were 56 days old or older. They ranged in weight from 31 to 60 lbs. at this time and no lambs were as old as 10 weeks (70 days) when weaned.

*These ewes were of predominantly Rambouillet breeding.

Table 1.—Average Daily Gain of Weaned and Non-Weaned Lambs During First Two Weeks of the Post-Weaning Period, Two Weeks Post-Weaning to Final Weight and for the Entire Period (1958-59). Lambs Were Weaned Within Two Weeks After Reaching 50 Pounds.

Weaning group	Number of lambs	Average weaning age ¹	Average weaning weight ¹	Average daily gain first two weeks	Average daily gain two weeks to final	Average daily gain entire period
		days	lbs.	lbs.	lbs.	lbs.
Single lambs (yrlg. dams)						
Weaned	23	78	55	0.48	0.51	0.50
Non-weaned	21	74	53	0.63	0.51	0.53
Single lambs (2-year-old dams)						
Weaned	24	69	56	0.46	0.57	0.54
Non-weaned	25	69	55	0.50	0.60	0.57
All single lambs						
Weaned	47	73	55	0.47	0.54	0.52
Non-weaned	46	71	54	0.56	0.56	0.55
Twin pairs						
Weaned	14	86	52	0.57	0.56	0.56
Non-weaned	14	83	54	0.52	0.62	0.60
All lambs						
Weaned	61	76	55	0.49	0.54	0.53
Non-weaned	60	74	54	0.55	0.57	0.56

¹For the non-weaned lambs, these figures are the ages and weights at the time the weaned lambs were weaned.

The results of this trial appear in Table 2. These lambs averaged about 10 days younger than the single lambs weaned in Trial I. It will be noted that the rate of gain of weaned lambs was considerably reduced (about .12 lbs. per day) for the first two weeks after weaning as compared to the non-weaned lambs. For the entire post weaning period, weaning apparently slowed the rate of gain by about .05 lbs. per day.

Results of Trial III (1960-61)

The 232 lambs used in this trial were out of mature ewes from three to seven years of age and included both singles and twins. The weaned lambs were weaned when they weighed at least 46 lbs. and were at least 66 days old. When weaned, they were moved to a new night lot and into a new pasture. They were obviously thrown off feed by their treatment and spent considerable time walking the fence trying to return to the other sheep.

Table 2.—Average Daily Gain of Weaned and Non-Weaned Lambs During First Two Weeks of the Post-Weaning Period, Two Weeks Post-Weaning to Final Weight and for the Entire Period (1959-60). Lambs Were Weaned Within Two Weeks After Reaching 56 Days of Age.

Face color and weaning group of lamb	Number of lambs	Average weaning age ¹	Average weaning weight ¹	Average daily gain first two weeks	Average daily gain entire period	Average daily gain two weeks to final
		days	lbs.	lbs.	lbs.	lbs.
Black faced						
Weaned	34	62	47	0.36	0.50	0.48
Non-weaned	35	61	49	0.51	0.56	0.54
White faced						
Weaned	18	60	45	0.34	0.47	0.45
Non-weaned	17	61	48	0.38	0.52	0.49
Total						
Weaned	52	61	46	0.35	0.48	0.47
Non-weaned	52	61	48	0.47	0.54	0.52

¹For the non-weaned lambs, these figures are the ages and weights at the time the weaned lambs were weaned.

Table 3.—Average Daily Gains for Weaned and Non-Weaned Lambs From Weaning Time Until Marketed When Minimum Weaning Weight Was 46 Pounds and Minimum Weaning Age was 66 Days. (1960-61)

Type of rearing and weaning group	Number of lambs	Average weaning age ¹	Average weaning weight ¹	Average daily gain	Average days weaning to market
		days	lbs.	lbs.	days
Singles					
Weaned	53	73	60	.44	82
Non-weaned	53	74	59	.51	71
Twins					
Weaned	62	79	50	.42	101
Non-weaned	64	88	50	.49	90
Total					
Weaned	115	76	54	.43	92
Non-weaned	117	82	54	.50	82

¹For the non-weaned lambs, these figures are the ages and weights at the time the weaned lambs were weaned.

NOTE: The gains for the first two weeks after weaning were so erratic due to the behavior of the weaned lambs and bad weather which caused poor weighing conditions that they were considered to be of little or no value.

Results of this trial appear in Table 3. It will be noted that the single lambs averaged about 59 lbs. when weaned since their age tended to be the restriction as to when they were weaned. Slower gaining twins were older and lighter in weight since their weight tended to be the restriction as to when they were weaned.

It was expected that the setback due to weaning in this trial would be intermediate in effect between Trials I and II since the weight and age specifications were intermediate to those in the first two trials. Such was not the case. The weaned lambs gained about .07 lb. per day slower than the non-weaned lambs which was greater than in Trial II when the lambs were weaned at younger ages and lighter weights. It is believed that the poor performance of weaned lambs in Trial III was partially due to the treatment of the lambs.

Results of Trial IV (1961-62)

The 307 lambs used in this trial were out of mature ewes ranging in age from two to eight years. The lambs included both singles and twins. The specifications for weaning were at 46 lbs. in weight and 66 days of age as in Trial III. The method of weaning was as in Trials I and II i.e. the ewes were removed and the lambs remained in the familiar environment. Ewes raising twins were removed when the lightest lamb had reached 46 lbs.

Table 4.—The Average Daily Gain of Weaned and Non-Weaned Lambs For Two Weeks After Weaning. The Lambs Were Weaned with 46 Pounds Minimum Weight and 66 Days Minimum Age.

Weaning group	Number of lambs	Average weaning age ¹	Average weaning weight ¹	Average daily gain 1st. two weeks
		days	lbs.	lbs.
Single lambs				
Weaned	99	74	60	.47
Non-weaned	94	74	60	.53
Twin lambs				
Weaned	56	81	52	.45
Non-weaned	58	80	54	.47
Total				
Weaned	155	77	57	.46
Non-weaned	152	76	57	.51

¹For the non-weaned lambs, these figures are the ages and weights at the time the weaned lambs

Early results of this trial appear in Table 4. These results confirmed suspicions about Trial III. The setback during the first two weeks after weaning was slight (.05 lbs. per day) when the lambs were left in the familiar environment whereas in Trial III moving the lambs to a new environment caused a rather severe setback. These results further suggest that the method of weaning lambs at a minimum weight and a minimum age influences the lambs less than weaning on weight only (Trial I) or on age only (Trial II).

The Influence of Early Weaning on Estimated Slaughter Grade

During the first two trials, each lamb was handled and given an estimated slaughter grade when he reached market weight. Those grading the lambs did not know which had been weaned and which had not. The results of this grading are shown in Table 5. It is clear from these results that little or no difference due to weaning was detectable.

As a result of the failure of the grading to show differences in the market grade of the lambs due to early weaning, the lambs were not graded during the latter two years.

Table 5.—Average Estimated Live Grades of Lambs Weaned and Non-Weaned.

Year and treatment	Number of lambs	Average estimated live market grades ¹
1958-59		
Weaned	61	12.03
Non-weaned	60	12.52
1959-60		
Weaned	52	12.73
Non-weaned	52	12.79

¹12 = High choice.

13 = Low prime.

The Influence of Early Weaning on the Subsequent Breeding and Lambing of the Ewes

Another consideration relative to the early weaning of lambs involves the subsequent lambing performance of the ewes. The ewes whose lambs were weaned early were roughed through the remainder

of the winter on winter dormant Bermuda and other grasses and were given about 2 lbs. of low quality alfalfa hay per day. They generally were thin but strong when annual grasses started in March and were reasonably fat by shearing and rebreeding time in May. Some of the old ewes with short teeth during the last year were still thin at breeding time. The ewes whose lambs were not early weaned were moved to the weaned ewe pasture as their lambs were marketed or when they weaned their lambs. Most of the latter ewes had dried up by March each year.

Table 6 summarizes the rebreeding performance of the ewes whose lambs were in the first three weaning tests. A more intensive study of the records than is possible from Table 6 leads to the conclusion that the time of weaning the lambs had little or no effect on the rebreeding and subsequent lambing performance of the ewes with two exceptions. First, yearling ewes whose lambs were weaned early in Trial I apparently recovered and bred back better than those that were weaned later as evidenced by the production of more twins the following year. Second, old ewes whose lambs were weaned early were maintained so poorly on the Bermuda grass that their recovery was much poorer than that of the old ewes that stayed on wheat pasture with their lambs. The ewes that

Table 6.—The Lambing Performance of Ewes the Year Following the Weaning Test as Influenced by When Lambs Were Weaned.

	Time of weaning		
	Early	Late	Both*
Trial I			
Number of ewes	49	47	14
Ewes not fall lambing	2	6	0
Ewes producing singles	28	28	3
Ewes producing twins	19 [†]	13	11
Lamb crop born (%)	135	115	179
			Twins**
			Previous year
Trial II			
Number of ewes	52	52	42
Ewes not fall lambing	6	7	1
Ewes producing singles	30	33	17
Ewes producing twins	16	12	24
Lamb crop born (%)	119	112	155
Trial III			
Number of ewes	80	81	
Ewes not fall lambing	13	10	
Ewes producing singles	48	39	
Ewes producing twins	19	32 [‡]	
Lamb crop born (%)	107	127	

*These ewes were rearing twins, one of which was early weaned.

**These ewes were rearing twins, all of which were early weaned.

†This difference was due to a few yearling ewes that benefitted from early weaning.

‡This difference was due to old, late weaned ewes recovered on wheat pasture and were fatter at breeding time than comparable ewes whose lambs were early weaned.

had their lambs weaned early scored thinner at breeding time and produced 41 percent fewer twins the following year than those that stayed on wheat pasture with their lambs throughout the winter.

The majority of all ewes in these trials were from two to six and showed no relationship between time of weaning their lambs and subsequent lambing performance.

Discussion and Summary

The results of these trials indicate what might be expected. Milk production studies show that most ewes are not giving much milk by the time the lambs are 10 weeks old. Therefore, lambs that have good feed (creep-feed plus pasture) available can be successfully weaned near this age. There is a short period after weaning when their rate of gain slows down but they seem to adjust during the first two weeks and gain satisfactorily thereafter.

Although these trials have not included different kinds of creep-feed, our knowledge of feeding young, growing, fattening animals will permit some generalizations. If lambs are to be weaned early, (1) they should be eating readily when weaned; (2) they should have palatable, nutritious feed and (3) the feed after weaning should be the same as or better than that received before weaning.

There was no evidence in the data that weaned lambs were not completely desirable as a market product. However, it should be remembered that the lambs were creep fed until market time.

Generally, there was little difference in subsequent performance of the ewes related to the time of weaning their lambs. There was an indication that young, immature ewes benefited from early weaning. Old ewes that were severely treated (in relation to the condition of their teeth) after their lambs were early weaned recovered too slowly to breed back as well as other ewes whose lambs were not early weaned and thus the ewes were better fed.